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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/347,110	07/02/1999	MICHAEL P. WELLMAN	TDYNP001	3364

7590

07/17/2002

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EXAMINER

SOUGH, HYUNG SUB

ART UNIT

PAPER NUMBER

3621

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/347,110

Applicant(s)

WELLMAN, MICHAEL P.

Examiner

Hyung S. Sough

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- ☐ Interview Summary (PTO-413) Paper No(s). _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luke et al. (Luke hereinafter: US PAT. 6,131,087) in view of Buss et al. (Buss hereinafter: US PAT. 5,841,958). Luke

Luke discloses a method of matching at least one multi-attribute bid from one or more buyers and at least one multi-attribute bid from one or more sellers, comprising:

selecting a pair of bids between each buyer and each seller, the pair of bids having a highest surplus (col. 7, lines 14-25);

generating a weighted graph showing the highest surplus of the pair of bids between the buyer and seller as a weight (FIGS. 1a and 1b); and

determining maximal weighted matching bids from the highest surplus pairs of bids using the weighted bipartite graph (FIG. 1b).

Luke (see FIGS. 1-1b) further discloses a dynamic trading method, comprising:

collecting at least one set of multi-attribute bid values from one or more buyers and at least one set multi-attribute bid values from one or more sellers; and

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generating buyer bids from said at least one set of buyer multi-attribute bid values and seller bids from said at least each set of seller multi-attribute bid values.

Re claim 1: Luke does not explicitly disclose the use of a weighted bipartite graph comprising buyer nodes and seller nodes and an edge between each buyer node and each seller node, each edge having the highest surplus of the pair of bids between the buyer and seller as a weight. However, Buss discloses the use of a bipartite graph for matching objects of one subset with objects of a different subset where multiple choices are permitted to provide a more efficient and faster process (col. 2, lines 14-21). Thus, it would have been within the level of ordinary skill in the art to modify the method of Luke by adopting the teaching of Buss to provide better efficiency and faster speed to the claimed method.

Re claim 2: Luke discloses that each buyer is associated with at most one maximal weighted matching bid and each seller is associated with at most one maximal weighted matching bid (FIG. 2).

Re claim 3: Luke discloses that said selecting the highest surplus pair of bids between each buyer and each seller includes determining a value associated with each bid of a buyer and each bid of a seller (FIG. 2).

Re claim 5: Luke discloses that the step of collecting at least one multi-attribute bid from one or more buyers and at least one multi-attribute bid from one or more sellers, each bid having a plurality of attributes specified by a buyer or seller (col. 4, lines 26-45; col. 6, lines 39-44).

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Re claim 6: Luke discloses that each bid has at least one predetermined attribute (i.e., quantity, price, or logistics information).

Re claim 7: Luke discloses that said plurality of attributes are specified relative to a uniform measurement unit (col. 5, lines 32-36 and 60-66).

Re claim 9: Luke discloses that each bid has a price associated therewith, the price being expressed in terms of the uniform measurement unit (col. 6, lines 60-66).

Re claim 10: Luke discloses that said selecting the highest surplus pair of bids between each buyer and each seller includes determining a difference between the price of each buyer bid and the price of each seller bid (from col. 7, line 26 to col. 8, line 20).

Re claim 11: Luke (see FIGS. 1b and 2-2E) discloses that each bid has a plurality of attributes, at least a portion of the attributes being specified by a buyer or seller and wherein said determining the highest value pair of bids between each buyer and each seller further includes:

generating bids for each buyer from the plurality of attributes;

generating bids for each seller from the plurality of attributes;

comparing attributes of each bid of each buyer with attributes of each bid of each seller.

Re claim 12: Luke (see FIGS. 1b and 2-2E) discloses that said determining the highest value pair of bids between each buyer and each seller further includes generating a list of matching bids between each buyer and each seller, each matching bid having compatible attributes.

Re claim 13: Luke (see FIGS. 1b and 2-2E) discloses that said highest surplus pair of bids between each buyer and each seller is selected from said list of matching bids.

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Re claim 14: Luke (see FIG. 2C) discloses that said compatible attributes include a buyer price lower than or equal to a seller price.

Re claim 15: Luke (see FIG. 2E) discloses that said generating the list includes discarding pairs of bids between each buyer and each seller where a buyer price is lower than a seller price.

Re claims 4 and 16: Luke does not explicitly disclose a dynamic trading method having a step of selecting a pair of compatible-bids between each buyer and each seller, the pair of bids having a highest difference in bid values. However, in Fig. 1b and col. 6, lines 26-35 thereof, Luke discloses that the trading would happen at any point (i.e., from lowest difference in bid values to highest difference in bid values) in the shaded polyhedron 40 (i.e., a pair of compatible bids between each buyer and each seller). Thus, it would have been obvious design choice to employ any selecting steps including the claimed step for the claimed method as desired.

Re claim 17: Luke further discloses that each bid value is a price, the price being expressed in terms of the uniform measurement unit (col. 5, lines 32-36 and 60-66).

Re claim 18: Luke (see Figs. 1a and 1b) further discloses that said selecting the highest difference pair of bids includes determining a bid value associated with each bid of a buyer and each bid of a seller.

Re claim 19: Luke (see Figs. 1a and 1b) further discloses that said collecting the multi-attribute bid values include collecting a set of nominal attribute values, including a nominal bid value.

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Re claim 20: Luke (see Figs. 1a and 1b) further discloses that said collecting the multi-attribute bid values further include collecting variances to the nominal attribute values of at least one attribute and a corresponding variance relative to said nominal bid value.

Re claim 21: Luke (see Figs. 1a and 1b) further discloses that said generating the multi-attribute bids include determining the bid value for each combination of attribute values for each buyer and each seller.

Re claim 22: Luke further discloses that said bid value and said variances to the bid value are specified in a uniform measurement unit (col. 5, lines 32-36 and 60-66).

Re claims 8 and 23: Luke does not explicitly disclose that said uniform measurement unit is a monetary unit. However, it is well-known practice to convert a plurality of attributes to a monetary unit (e.g., converting a delivery destination to a monetary unit based on a distance or a payment date to a monetary unit based on an interest rate) to more accurately define the actual price of purchasing products and it would have been within the level of ordinary skill in the art to employ a monetary unit as a uniform measurement unit to facilitate the process of selecting a pair of bids between each buyer and each seller for the claimed method.

Re claim 24: Luke (see FIGS. 1-1b) discloses a method of generating multi-attribute bids, comprising:

collecting at least one set of multi-attribute bid values, each set of multi-attribute bid values having a set of nominal attribute values including a nominal bid value, said collecting also

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includes collecting at least one variance to the nominal attribute value of at least one attribute and a corresponding variance relative to said nominal bid value; and

generating a set of bids for each set of multi-attribute bid values, each bid having a different combination of attribute values based on corresponding variances and nominal attribute values.

Luke does not explicitly disclose the step of generating a bid value for each bid based upon the combination of attribute values. However, Buss discloses the use of a bipartite graph for matching objects of one subset with objects of a different subset where multiple choices are permitted to provide a more efficient and faster process (col. 2, lines 14-21). Thus, it would have been within the level of ordinary skill in the art to modify the method of Luke by adopting the teaching of Buss to provide better efficiency and faster speed to the claimed method. Further, to use bipartite matching method as taught by Buss, a bid value for each bid based upon the combination of attribute values must be generated.

Re claim 25: Luke (see FIGS. 1a and 1b) further discloses that said collecting includes collecting at least one set of multi-attribute bid values from a buyer and collecting at least one set of multi-attribute bid values from a seller, the buyer and seller having a same set of attributes.

Re claim 26: Luke (see FIGS. 1a and 1b) further discloses that at least one attribute of said same set of attributes is selected from the group consisting of a predetermined buyer attribute and a predetermined seller attribute.

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Re claim 27: Luke (see FIG. 2E) further discloses that said collecting includes collecting a bid value limit selected from the group consisting of a minimum bid value and a maximum bid value, said method further comprising discarding bids from said set of bids having a bid value outside of the bid value limit.

Re claims 28, 29 and 30: Luke discloses that the method of his is a computer implemented method. Further, as stated supra, the claimed method would have been obvious to one of ordinary skill in the art and the claimed computer program product would also have been obvious to one of ordinary skill in the art to practice the claimed method.

Response to Arguments

3. Applicant's arguments filed on April 23, 2002 have been fully considered but they are not persuasive.

- Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

- In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

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1992). In this case, it is true that Luke teaches the use of intersecting points of polyhedron geometric objects to define the boundaries of negotiations between the buyers and sellers.

However, Luke clearly teaches the use of the combination of attribute values (e.g., col. 3, lines 40-42, "providing a system of matching and bargaining based on the many variable dimensions of transaction between market participants;") for a computer implemented trading method and Buss clearly teaches that his invention is for matching objects of one subset with objects of a different subset where multiple choices are permitted to provide a more efficient and faster process (col. 2, lines 14-21). Thus, it would have been within the level of ordinary skill in the art to modify the method of Luke by adopting the teaching of Buss to provide a more efficient and faster process (col. 2, lines 14-21) for matching between a plurality of sellers and buyers.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hyung S. Sough whose telephone number is (703) 308-0505. The Examiner can normally be reached Monday-Friday from 8:30 AM - 4:00 PM EST.

If attempts to reach the Examiner by telephone are unsuccessful, The Examiner's Supervisor, James P. Trammell, can be reached on (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703)308-1113.

Any response to this action should be mailed to:

***Commissioner of Patents and Trademarks
Washington D.C. 20231***

or faxed to:

(703)305-7687

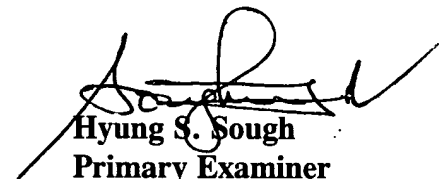
[Official communications; including
After Final communications labeled

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"Box AF"]

(703) 746-8177 [Informal/Draft communications, labeled
"PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal
Drive, Arlington, VA, 7th floor receptionist.



Hyung S. Souh
Primary Examiner
Art Unit 3621

shs
July 14, 2002